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ePoster Viewing
Resistance surveillance & epidemiology: MRSA, VRE & other Gram-positives

Increased in vitro resistance to clindamycin, erythromycin and tetracycline of Streptococcus agalactiae isolated from pregnant and nonpregnant women

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Background: *Streptococcus agalactiae* is the leading cause of early-onset neonatal sepsis in many parts of the world due to maternal-infant transmission. The introduction of routine screening for maternal colonization by group B *Streptococcus* and intrapartum treatment of infected mothers represents a significant public health intervention and success. The purpose of this study was to assess *S. agalactiae* prevalence in the vaginal secretions of reproductive age women, pregnant and nonpregnant, together with the susceptibility patterns of these isolates and whether significant changes in the susceptibility rates to clindamycin, erythromycin and tetracycline, if any, occurred during the last years.

Material/methods: A total of 6,418 vaginal cultures obtained from 1,918 pregnant and 4,500 nonpregnant reproductive age women from 2008 to 2014 were included in this study. Samples were inoculated onto appropriate media and incubated for 24 hours under aerobic conditions. Wet mount and Gram stain preparations were examined to investigate the presence of leukocytes and the type of microorganisms present. The identification of isolated strains and their susceptibility test to antimicrobials were carried out with the automated system VITEK 2 (BioMerieux, Marcy l'Etoile, France).

Results: *S. agalactiae* was isolated from 2.8% and 3.7% of pregnant and nonpregnant women, respectively. All isolates were penicillin susceptible, whereas the susceptibility profiles for clindamycin and erythromycin indicated comparable and quite stable percentages (around 35%) during 2008 to 2011, while in 2012 a significantly increased resistance (76%) was observed, reaching strikingly high levels in 2013 and 2014, 96% and 95%, respectively. The number of isolates resistant to tetracycline was high throughout the whole period studied with no significant fluctuations.

Conclusions: The present study showed a relatively low prevalence of *S. agalactiae* in the population studied which, however, displayed significantly increased resistance rates to clindamycin, erythromycin and tetracycline. Obviously, neonatal group B streptococcal infection can and has been reduced around the world by routine screening and use of antibiotics. However, a potential side effect of this protocol is the risk of developing resistance to different antimicrobials. Nevertheless, strict adherence to a culture-based screening strategy is important to identify the mother-infant pairs at risk of vertical transmission due to maternal genital carriage. The significant decreased susceptibility to clindamycin and erythromycin observed in this study is a serious matter of concern since it interferes with treatment options, especially in patients with penicillin allergy. These results emphasize the need to monitor the epidemiology of *S. agalactiae* resistance to antimicrobials.